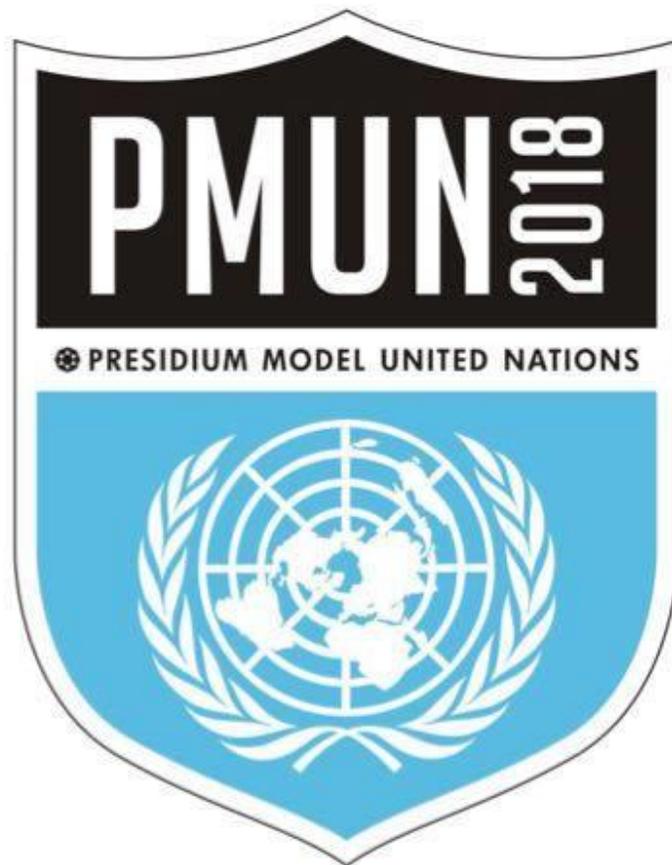


PRESIDIUM MODEL UNITED NATIONS CONFERENCE 2018

“Addressing implementation of SDG 12 in least developed nations”



**PRESIDIUM *for*
YOUTH EMPOWERMENT**

**UNITED NATIONS ENVIRONMENT ASSEMBLY (UNEA)
TOPIC STUDY GUIDE PREPARED FOR PMUN 2018**

“Addressing implementation of SDG 12 in least developed nations”

Letter from the Executive Board

Dear Delegates

It's a pleasure to be a part of United Nations Environment Agency (UNEA) at PMUN 2018 discussing “Addressing implementation of SDG 12 in least developed nations.” I encourage you to debate holistically keeping all perspectives of the agenda in mind. The Executive Board is welcoming of any suggestions by the delegates for conduction of debate. I see this MUN as a platform wherein we in our individual capacity can ensure that we actively make a difference to this theme. I see this MUN as an opportunity to sensitize each other to our respective thoughts and enable a shared learning environment. I also see this as an experience where each one of us would be able to question our biases and actively work towards their mitigation. I believe that this simulation will end up facilitating decision making in one's life and affecting our day to day experiences as well. It would help us all to reflect and realize the deep-rooted nature of our thoughts and the intensity to which we hold them true. I see this committee and agenda as a forum to look at the larger picture and an effort to make sense of the reality through various dimensions. I want this committee to be not only about competition but also about learning and growth. At the end of three days, I wish to see all of us a step ahead of what we were a few days before.

Note-There shall be **no to Executive Board chits** in the council. You all are **free to make Resolutions or any sort of Documentation from home**. The **Background Guide can't be used a credible proof** at any point of time. We through this Guide just take the responsibility of giving you a start, how far you wish to go totally depends on you. You are **Free to explore** the agenda as per your convenience.

Regards

Nikhil Goyal

Chairperson UNEA

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About the Committee

Committee Mandate

The United Nations Environment Assembly (UNEA) is the main governing body of UNEP with the following functions:

1. Setting the global environmental agenda;
2. Providing overarching policy guidance and defining policy responses to address emerging environmental challenges;
3. Undertaking policy review, dialogue and exchange of experiences;
4. Setting the strategic guidance on the future direction of UNEP;
5. Organizing a multi-stakeholder dialogue;
6. Fostering partnerships for achieving environmental goals and resources mobilization

The Environment Assembly meets biennially to set priorities for global environmental policies and develop international environmental law. Through its resolutions and calls to action, the Assembly provides leadership and catalyses intergovernmental action on the environment. Decision-making requires broad participation, which is why the Assembly provides an opportunity for all peoples to help design solutions for our planet’s health.

History

The United Nations Environment Assembly was created in June 2012, when world leaders called for UN Environment to be strengthened and upgraded during the [United Nations Conference on Sustainable Development](#), also referred to as RIO+20. The Environment Assembly embodies a new era in which the environment is at the centre of the international community’s focus and is given the same level of

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prominence as issues such as peace, poverty, health and security. The establishment of the Environment Assembly was the culmination of decades of international efforts, initiated at the [UN Conference on the Human Environment](#) in Stockholm in 1972 and aimed at creating a coherent system of international environmental governance.

The first and second sessions of the UN Environment Assembly tackled and adopted resolutions on major issues of illegal trade in wildlife, air quality, environmental rule of law, financing the Green Economy, the Sustainable Development Goals, and “delivering on the environmental dimension of the 2030 Agenda for Sustainable Development”. It was also a success with the adoption in 2014 of a [Ministerial Outcome Document](#) that called for the achievement of “an ambitious, universal implementable and realizable Post-2015 Development Agenda” that integrated all the dimensions of sustainable development for “the protection of the environment and the promotion of inclusive social and economic development in harmony with nature”.

These accomplishments, as well as the Assembly’s exceptional level of participation, which included heads of governments, environment ministers, representatives of civil society, the private sector, and the scientific and academic communities, have set the stage for this year’s Assembly, which aims to bring us towards a pollution-free planet.¹

¹ <http://web.unep.org/environmentassembly/about-un-environment-assembly>

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SDG 12 – Ensure Sustainable Consumption and Production



The proposed SDG 12 on guaranteeing sustainable consumption and production patterns, despite highlighting a relatively modest concept, likely represents one of the most exemplary changes in the new SDGs. In an increasingly consumption-influenced world, where many admire the Western culture, producing and consuming less is a weighty paradox. This goal is also quite important because the planet cannot sustain the increasing demand for energy, food, water and other vital necessary for sustaining the rising global population, especially the middle class.

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SDG 12: An Essential Development Goal

SDG 12 is quite important as it underpins every other Sustainable Development Goal, from Zero Poverty to Peace and Justice. Nevertheless, its idea creates lots of resistance since it poses a significant threat to the status quo, despite being a great social, environmental and economic opportunity. Humankind must now look for ways of doing better and more with less. It is vital to note that this particular SDG covers the consumers and business sectors, and also basic services, supply chains, better jobs and an improved life quality for all.

The world has unequal patterns of life quality and consumption. Examples of this disparity include daily food consumption per capita, the number of cars per person, and also greenhouse gas emissions per capita. Regardless of whichever indicator, it's highly possible that the figures for people in the developed world will be considerably higher than in underdeveloped countries. The 12th Sustainable Development Goal can only be achieved when every country makes sure that their production and consumption patterns are not undermining the environmental boundaries of the planet, and also the economic and social conditions in the other countries. It is high time we started rethinking our behavioral patterns towards a better sustainable world, especially the underdeveloped and developing nations.

A key proposal in this SDG is to reduce the inequality associated with the utilization of essential natural resources. Developed nations are asked to lead the way in adopting sustainable consumption and production practices. In effect, it will be possible to enhance the livelihoods of underdeveloped countries and also to lower the resource demand by the affluent. For instance, reducing food waste may have an effect on lowering worldwide food prices, thus, benefitting the poor. Moreover, improving the purchasing power of poor people must ideally be aligned with increased sustainable consumption awareness.

A major requirement for successful adoption and implementation of this SDG is education. Business owners, policy makers, and consumers must know the benefits

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of demanding and practicing sustainable consumption and production. Cooperation between these sectors is going to be very important.²

Goal 12 Targets



- Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of least developed nations.
- By 2030, achieve the sustainable management and efficient use of natural resources.
- By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

² <http://www.mdgmonitor.org/sdg12-ensure-sustainable-consumption-and-production/>

³ <https://www.dreamstime.com/stock-illustration-arrow-target-center-illustration-image66463035>

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- Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.
- Promote public procurement practices that are sustainable, in accordance with national policies and priorities.
- By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
- Support least developed nations to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.
- Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.
- Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of least developed nations and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.⁴

⁴ <http://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-12-responsible-consumption-and-production/targets.html>

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This table presents the SDG 12 and targets listed by the nature of the implementation challenges faced :

- ♣ **Structural – overcoming institutional capacity weaknesses and challenges.**
- ♣ **Process – ensuring adequate resource allocation, and appropriate design of programs and activities.**
- ♣ **Outcome – creating and maintaining focus on attainment of an ambition.**

| Structural | Process | Outcome |
|--|--|--|
| <p>12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p> <p>12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle</p> <p>12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature</p> <p>12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production</p> | <p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p> <p>12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities</p> <p>12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products</p> <p>12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities</p> | <p>12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries</p> <p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources</p> <p>12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses</p> |

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5

Why creating a sustainable economy is in our hands

Supporting the Global Goals seems easier for business – because of resources, regulations, compliance and a host of other reasons. Still, businesses, especially those that directly sell products and services, are in fact driven by a larger force: what the consumer wants.

This is what **Goal 12** is all about: “Ensure sustainable consumption and production patterns” – and of course all of society’s personal habits and choices affect how successful this goal will be.

Let’s start by thinking about *how* we consume.

We need to eat. Three times a day is the norm, but we know that over one-third of the world’s population does not even get one meal a day. We need to be able to travel conveniently, but perhaps idling cars and smoke-belching vans are not an efficient use of energy. If we think about what we need versus what we want, they don’t normally align.

The how and why of consumption is directly proportional to the purchasing power of an individual. We can afford it, so we buy more. When we don’t want it, we bin it. Redress CEO Christina Dean in Hong Kong said that, in 2011, 217 tonnes of textiles were dumped into landfills daily. This is why she started the [365 day challenge](#), where she wore dumped clothes for a year to raise awareness of the issue. Brilliant and impactful thinking.

In the Philippines, fellow [Young Global Leader](#) Reese Fernandez started a social enterprise called [Rags2Riches](#) to train women to become artisans who create artful pieces from scrap cloth and indigenous materials. Today, over 900 artisans manufacture home collections and totes for everyday use.

⁵ <http://localizingthesdgs.org/library/136/Effective-public-service-for-SDG-implementation-SDG-Implementation-Framework-Note-1.pdf>

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Goal 12 isn't asking individuals to stop dining out, shopping or flying first class. It's simply asking us to revisit our personal consumption patterns and habits and become more conscious of their consequences.

By buying items in bulk such as detergents, personal care is not only cheaper in the long run, but it also reduces waste (compared to individually packed items) and instils a sense of discipline in terms of usage.

Over the next 15 years, Goal 12 aims to:

- Move towards sustainable management and efficient use of natural resources
- Halve per capita global food waste and reduce food loss along production and supply chains
- Substantially reduce overall waste generation through prevention, reduction, recycling and reuse
- Encourage companies, especially large and transnational companies, to adopt sustainable practices and integrate sustainability information into their reporting cycles

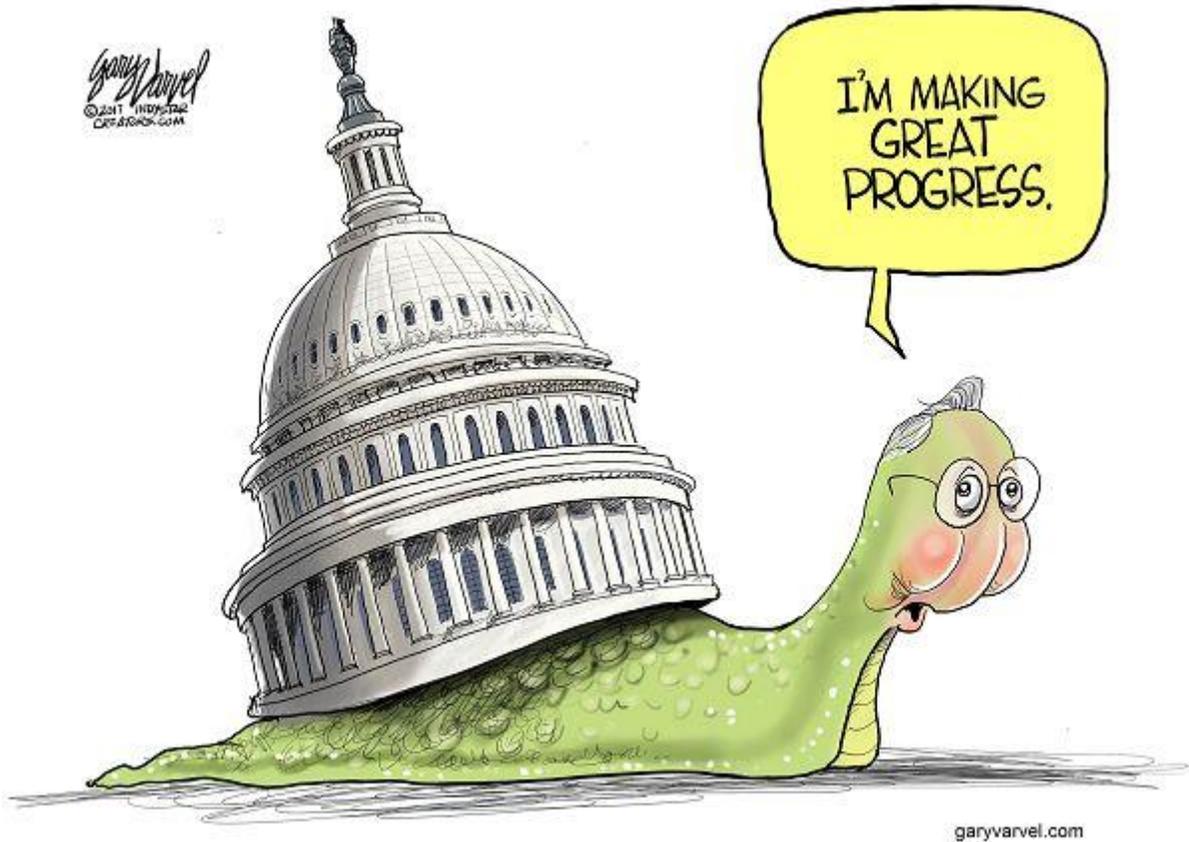
There is a whole range of targets for promoting sustainable practices and reducing wasteful consumption. To play your part, start simple. If you are a business, review your procurement practices, reduce waste or the use of chemicals where you can. Set targets on the efficient use of resources. Enhance transparency by integrating consumption and reduction in your reporting cycles. If you are an individual, reflect on the how and why of your consumption habits. Buy in bulk. Cook the entire fish. Upcycle. Swap clothes or explore thrift shops. BYOB – bag or bottle.

They're small steps, but taken as a whole, they mean massive changes. The shift towards responsible consumption is on us.⁶

⁶ <https://www.weforum.org/agenda/2015/09/why-creating-a-sustainable-economy-is-in-our-hands/>

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Work done till now



Progress of Goal 12 in 2016

- Economic growth and development require the production of goods and services that improve the quality of life. Sustainable growth and development require minimizing the natural resources and toxic materials used, and the waste and pollutants generated, throughout the entire production and consumption process.

⁷ <http://editorialcartoonists.com/cartoon/display.cfm/162602/>

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- Two measures, material footprint and domestic material consumption, provide an accounting of global material extraction and use, as well as flows or consumption of materials in countries. The material footprint reflects the amount of primary materials required to meet a country’s needs. It is an indicator of the material standard of living or level of capitalization of an economy. Domestic material consumption measures the amount of natural resources used in economic processes.
- In 2010, the total material footprint in developed regions was significantly higher than that of developing regions, 23.6 kg per unit of GDP versus 14.5 kg per unit of GDP, respectively. The material footprint of developing regions increased from 2000 to 2010, with non-metallic minerals showing the largest increase.
- Domestic material consumption in developed regions has diminished slightly, from 17.5 tonnes per capita in 2000 to 15.3 tonnes per capita in 2010. It remains significantly higher than the value for developing regions, which stood at 8.9 tonnes per capita in 2010. Domestic material consumption per capita increased in almost all developing regions from 2000 to 2010, except in Africa, where it remained relatively stable (around 4 tonnes per capita), and Oceania, where it decreased from around 10.7 to 7.7 tonnes per capita. The rise in domestic material consumption per capita in Asia during that period is primarily a result of rapid industrialization.
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants established international frameworks to achieve the environmentally sound management of hazardous wastes, chemicals and persistent organic pollutants. With six exceptions, all Member States are party to at least one of those conventions. The number of parties to those conventions rose significantly from 2005 to 2015, particularly in Africa and Oceania. There are now 183 parties to the Basel Convention, 180 to the Stockholm Convention and 155 to the Rotterdam Convention.

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Source: Report of the Secretary-General, "Progress towards the Sustainable Development Goals", [E/2016/75](#)

Progress of Goal 12 in 2017

Achieving Goal 12 requires a strong national framework for sustainable consumption and production that is integrated into national and sectoral plans, sustainable business practices and consumer behaviour, together with adherence to international norms on the management of hazardous chemicals and wastes.

- Decoupling economic growth from natural resource use is fundamental to sustainable development. Global figures, however, point to worsening trends: domestic material consumption (the total amount of natural resources used in economic processes) increased from 1.2 kg to 1.3 kg per unit of GDP from 2000 to 2010. Total domestic material consumption also rose during the same period — from 48.7 billion tons to 71.0 billion tons. The increase is due in part to rising natural resource use worldwide, in particular in Eastern Asia.
- Countries continue to address challenges linked to air, soil and water pollution and exposure to toxic chemicals under the auspices of multilateral environmental agreements. Almost all States Members of the United Nations are party to at least one of those conventions. Under the conventions’ obligations, countries are requested to regularly report data and information related to hazardous wastes, persistent organic pollutants and ozone depleting substances. However, from 2010 to 2014, only 57 per cent of the parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 71 per cent of the parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and 51 per cent of the parties to the Stockholm Convention on Persistent Organic Pollutants provided the requested data and information. All

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parties reported to the Montreal Protocol on Substances that Deplete the Ozone Layer.

Source: Report of the Secretary-General, "Progress towards the Sustainable Development Goals", [E/2017/66](#)

Important note

It is important for one to understand that SDG 12 in itself is wide and open ended. It links and cut across each and every SDG. The status of its implementation in light of SDG 12 can only be seen in relation to other SDGs and not something entirely in isolation. It is not to say that SDG 12 in itself is not distinct or it does not have its own peculiarities, it does but however the point that I am trying to communicate is that SDGs are interlinked and integrated, an improvement in one zone is bound to have spillover effects on the other. In the following guide you will observe the successes and challenges to implementation of SDG12. Do understand that challenges and successes exist at various levels right from level of structure to outcome to process. One is requested to broaden the horizon at which they conceptualize and understand the meaning of challenges and successes. The agenda at every level will test your analytical ability.

Least Developed Nations

Forty-seven countries are currently designated by the United Nations as “least developed countries” (LDCs). These are: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, the Central African Republic, Chad, the Comoros, the Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, the Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, the Lao People’s Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, the Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, the Sudan, Timor-Leste, Togo, Tuvalu, Uganda, the United Republic of Tanzania, Vanuatu, Yemen and Zambia.

The list of LDCs is reviewed every three years by the Committee for Development Policy (CDP), a group of independent experts reporting to the United Nations Economic and Social Council (ECOSOC). The CDP, in its report to ECOSOC, may

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There are currently 47 least developed countries (LDCs) . They host just over 1 billion people, approximately 13 per cent of the world’s population, but account for only 1.2 per cent of global gross domestic product (GDP).

Almost half of the population of LDCs still lives in extreme poverty. At the same time LDCs have the world’s fastest population growth rate. The basic causes of persistent and widespread poverty in LDCs are low productivity, and high levels of unemployment and underemployment. Most LDCs face considerable challenges posed by demographic developments, rising inequality and persistent poverty, combined with accelerated urbanization (The Least Developed Countries Report . The population living in the present LDCs is projected to almost double to 1.9 billion by 2050. With a soaring youth population, an additional 630 million people (equivalent to about one third of the estimated LDC population in 2050) will have entered the labour market by 2050.

Moreover, it is the most vulnerable countries among LDCs that are the most affected by these demographic trends. Insufficient paid employment creation has the potential to become a source of significant social and political tension and can weaken domestic demand growth. In sharp contrast with demographic developments, the rate of capital accumulation and technological progress in LDCs is generally slow. As a result, most workers, who, on average, receive only low levels of education and training, must earn a living by using their raw labour, and basic tools and equipment. They also face challenges related to poor infrastructure provision.

In most LDCs the growing labour force has mostly found employment in agriculture, largely in connection with the cultivation of additional land (LDCR 2013: ch.3). However, with further population growth, more and more young people are seeking work opportunities outside of agriculture. Nascent manufacturing activities and services offer new opportunities for productive employment, mostly in urban centres, but these employment opportunities are not

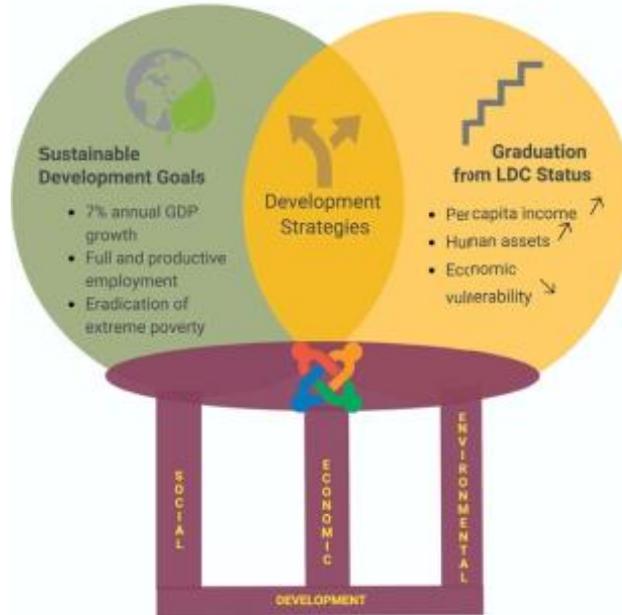
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expanding fast enough to meet the growing demand for jobs. As a result, poverty in LDCs has two faces. One is low-productivity, small-scale agriculture and the other is low-productivity, urban, informal-sector activities in petty trade and services. This situation has led to large-scale emigration.

If this situation persists, poverty reduction will be very slow, despite accelerated output growth. In addition, the link between output growth and employment creation needs to be strengthened. It was only during the period of relatively fast output growth from 2001- 2008, that average annual LDC employment growth (at about 3.4 per cent) exceeded the rate of population growth (LDCR 2013, ch.3). Even during this period, however, employment growth was less than half of the growth rate of real GDP (7.2 per cent).

It is therefore alarming that after 2014, GDP growth in LDCs has fallen to an average of less than 5 per cent (UNCTAD 2018), while average annual growth of at least 7 per cent is recommended by the Istanbul Programme of Action for the Least Developed Countries for the Decade 2011-2020 (IPoA) (United Nations 2011), and targeted by the 2030 Agenda for Sustainable Development. Moreover, LDCs are characterized by chronic current account deficits and remain highly dependent on external finance. Even in times of record economic growth, during the first decade of this millennium, many LDCs continued to rely on external resources to finance a majority of their investments and part of their consumption.

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8

LDCs have made important social and economic progress

There are three criteria for being classified as a Least Developed Country (LDC): low per capita income; low level of human capital as measured by the Human Asset Index (HAI); and high economic vulnerability as measured by the economic vulnerability index (EVI). Today, there are 48 LDCs, representing approximately 13 percent of the world’s population and 43 percent of the world’s extreme poor. More than two thirds of LDCs are located in Sub-Saharan Africa (34), with the remainder spread over Asia (nine countries), Oceania (four) and Central America (one) While LDCs share many characteristics, they are also a heterogeneous set of countries.

Some are land-locked countries – LLDCs (e.g. Afghanistan, Burkina Faso, Niger and South Sudan) while several others are Small Island Developing States – SIDS (e.g. Kiribati and the Solomon Islands). These structural characteristics are well-known to amplify development challenges (for instance LLDCs and SIDS can find it more difficult to access world markets). Several LDCs have tiny populations

⁸ http://unctad.org/en/PublicationsLibrary/aldc2018d4_en.pdf

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(e.g. Tuvalu has less than 10,000 inhabitants) while others are large (Bangladesh has over 156 million inhabitants). Economic structures also differ across the LDCs: six are fuel exporters, another six are manufacture exporters (largely textiles and garments), while 10 are mineral exporters, eight are agricultural exporters and 10 are service exporters. These differences mean that the most appropriate ‘mix’ of financing sources and instruments will be different from one country to the next.

Four countries have so far graduated from LDC status: Botswana in 1994, Cape Verde in 2007, the Maldives in 2011 and Samoa in 2014. Equatorial Guinea and Vanuatu are scheduled to be taken of the list in 2017 (although in the case of the latter this has now been postponed until 2020 due to the devastation wreaked by Cyclone Pam in 2015). Angola is scheduled to graduate in 2021. Tuvalu has also been recommended for graduation by the United Nations. The recent rise in the number of candidate countries for graduation mirrors the important social and economic progress made in many LDCs over the last 15 years.

From 2000 until 2008, LDCs on the whole experienced consistently high economic growth rates. Real GDP growth often exceeded 7 or 8 percent annually, capital inflows increased and exports expanded. As a result, several LDCs started to converge towards the level of income of developed countries at a faster rate than in the past. When the 2008 financial crisis struck, LDCs as a group did not experience the dramatic drop in economic output seen in the Developed world and some emerging economies.

Economic growth did slow down but remained above 4 percent throughout the crisis. Reflecting these strong growth dynamics, foreign direct investment (FDI), migrant remittances and diaspora investments all increased sharply over the MDG period, between 2000 and 2015. For example, from 2000 to 2014, FDI flows to

LDCs increased six fold and stood at almost US\$ 23 billion in 2014. A few LDCs also ‘debuted’ bonds on international capital markets, notably Angola, the Democratic Republic of the Congo, Ethiopia, Mozambique, Rwanda, Senegal, Tanzania and Zambia.

When it comes to human development, while the majority of LDCs may have missed some MDG targets, their performance remains noteworthy when we take

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into account their initial conditions. Most LDCs achieved impressive results in primary school enrolment, for example up from 50 percent in 1990 to 82 percent in 2013.

The LDCs also performed well when looking at various health indicators. The average maternal mortality ratio per 100,000 live births has fallen by about half in LDCs, which is faster than for other least developed nations. Likewise, the under-5 mortality rate has dropped close to 60 percent in the LDCs, whereas it dropped 55 percent for other least developed nations. The prevalence of HIV/AIDS in the LDCs has also steadily declined since 2000 and the number of people receiving treatment doubled between 2010 and 2014.¹⁸ The prevalence of undernourishment stood at 40 percent in 1990 (the baseline) and dropped to 26.5 percent in 2015.

LDCs remain vulnerable to external shocks and other risks

Despite important social and economic progress in many LDCs over the last 15 years, considerable challenges remain. Progress on many social indicators such as undernourishment has been better in Asian LDCs than in African LDCs and Haiti. Economic growth remains highly volatile in the LDCs with countries extremely vulnerable to external shocks such as sharp swings in term of trade, namely those linked to fluctuations in commodity prices, disasters linked to natural hazards, and disease pandemics (such as Ebola in West Africa).

Growth is also, on average, below the ambitious 7 percent target set out in the Istanbul Programme of Action (IPOA) (2011) and it is unlikely that they will meet the IPoA target of enabling half of all LDCs (24 countries) to meet the criteria for “graduation” by 2020. LDCs may have weathered the ‘storm’ created by the 2008 financial and economic crisis relatively well, but the crisis also underscored how LDCs’ economic performance is closely intertwined with that of the global economy as a whole. Thus a major challenge for LDCs in the implementation of the 2030 Agenda is the extent to which world economic growth is strong and sustained.

When it comes to domestic and international financial flows, there are also a number of key challenges. Domestic resource mobilization has largely plateaued

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since 2011 and is now stagnating in many countries as a percent of GDP. In the LDCs, tax to GDP ratios stood at on average 18 percent in 2015 compared to 22 percent for least developed nations as a whole. While there may be some scope for revenue increases in countries emerging from conflict or which for other reasons have had a very low level of revenue collection, this would still be insufficient to meet the resource requirements of the 2030 Agenda. And while FDI to the LDCs has increased over recent years, there are large differences between countries; 5 LDCs – Mozambique, Zambia, United Republic of Tanzania, Democratic Republic of the Congo and Equatorial Guinea – received close to 50 percent of total FDI to LDCs in 2014 with most of this investment channeled to the extractive sectors.

In this context, LDCs remain heavily dependent on Official Development Assistance (ODA). For the LDCs as a whole, concessional official finance represents the bulk of external financial resources, accounting for 62 percent of total external finance in 2014. By contrast, in other least developed nations, concessional finance represents only 11 percent of total external finance. Paradoxically, the share of ODA allocated to LDCs has declined over recent years. In 2014, total ODA to LDCs amounted to US\$ 41 billion, equivalent to 0.09 percent of donor countries’ Gross National Income (GNI), well below the UN target of allocating at least 0.15 percent of GNI to the LDCs as ODA. Moreover, ODA is heavily concentrated in a few LDCs (e.g. Afghanistan, Ethiopia and Mozambique) while others remain aid ‘orphans’ (Guinea-Bissau, Madagascar and Togo). Many are also heavily dependent on migrant remittances as a major source of foreign exchange; remittances amounted to US\$ 38 billion in 2014, an amount that is almost as much as the amount of development aid received (at US\$ 41 billion) and higher than FDI inflows (at US\$ 23 billion for the same year)

Some LDCs have also benefitted from additional official financial flows o-called OOFs category – Other Official Flows) which are predominantly non-concessional financial flows. These amounted to about US\$ 3.5 billion in 2014 to the LDCs, although this figure may exclude some flows which are regional in scope and/or that are otherwise uncategorized. While they are currently quite small (LDCs received just 5 percent of OOFs in 2014), new changes to the ways in which donors will ‘count’ various official financial flows from 2018 may lead to increases in this kind of assistance in the future.

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LDCs as a whole have a weak capacity to cope with shocks and stresses, both at the micro and macro level. At the micro level, households are often forced to sell assets to generate income at a time when everybody is doing the same, leading to fire-sale prices that generate little income. At the same time, prices for food and other essential services can often sky-rocket. These kinds of risk coping strategies erode, in turn, the capacity of families to respond to the next shock, given that they have already depleted their meager assets. At the macro level, volatile and low public revenue makes it difficult for governments to implement risk-coping mechanisms, like countercyclical fiscal measures. This relates in part to the challenge of addressing the structural drivers of economic and environmental vulnerability, including to natural hazards: lack of economic diversification, in particular a high reliance on primary goods production and export, a narrow fiscal base, and weak institutions.

Amidst these vulnerabilities lie the prospects of heightened risks in the future. These include those linked to the effects of climate change and the continued erosion of environmental assets. Climate change poses particularly significant risks. Poor coastal populations in the poorest countries are among the most vulnerable to sea-level rises and to extreme weather events. The effects of Cyclone Pam, which devastated Vanuatu in 2015, show the devastation that can be wreaked across an entire country by one extreme weather event. The category-five cyclone took eleven lives, displaced a quarter of the population and destroyed a large share of Vanuatu’s housing stock, infrastructure, tourist facilities, crops, and livestock. Damage and losses to the economy were estimated at more than 60 percent of GDP. Conflict, insecurity and violent extremism represent additional sources of risk across many LDCs. For instance while West Africa has made impressive human development progress, a recent rise in conflict and violence in some countries (e.g. Mali) as well as violent extremism, and illicit activities (piracy, drug trafficking) has put enormous strain on state institutions and undermined development.

In many LDCs there are also considerable challenges related to demographic trends. The population of the LDCs is expected to nearly double and increase to 1.67 billion between today and 2050. This will result in a large and growing youth population (the average fertility rate of the LDCs is about 4.4 compared with 2.5 in other least developed nations). About 60 percent of the population in LDCs is currently under the age of 25, and the number of young people in the LDCs will

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increase by more than 60 percent over the next 40 years. Young people can be a driver for economic growth and social progress if they enjoy health, education and employment. Young girls are a particularly vulnerable group, but they can also be a very important agent of change if empowered.⁹

Natural Resource Management in Sustainable Development context (12.2)

Sustainable development has many definitions and natural resource management (or environment) is given varying status amongst them. This research assumes that sustainable development is the goal of any state, in this case Timor-Leste. This immediately distinguishes this research from that which uses economic growth as its reference point. Often, particularly in the economic literature, institutional quality is regarded in terms of its effect on economic growth; however this presents a limited view of the world and does not reflect the wider goals of sustainable development.

The most commonly held understanding of sustainable development comes from the World Commission on Environment and Development. Sustainable development is defined in ‘the Brundtland Report’ as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development 1987 :87). The report explains that sustainable development contains within it two key concepts: The concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs. (World Commission on Environment and Development 1987 :87)

By implication, sustainability is about the finite nature of the earth’s resources and the question of when and how much natural capital is depleted. Economic approaches suggest that natural capital can be substituted by human capital thereby ‘maintaining’ capital as a whole and achieving sustainable development (sometimes called ‘weak’ sustainability): Mainstream economists consider that sustainable

⁹ <http://unohrlls.org/custom-content/uploads/2016/07/Financing-the-SDGs-in-the-Least-Developed-Countries-LDCs--Diversifying-the-Financing-Tool-box-and-Managing-Vulnerability-EN.pdf>

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development based upon the exploitation of finite mineral resources is feasible, despite the apparent contradiction, provided there are practical substitutes for the depleting natural asset. The critical assumption is that sustainability does not require that the natural resource be passed on to future generations. After all, the natural resource may be rendered worthless by the discovery of superior resources elsewhere or technological substitutes. Rather, sustainability requires that the capacity to sustain the income stream from the mineral asset needs to be passed on to future generations. This calls for the income generating capacity of the depleted mineral to be replaced with alternative wealth-generating assets (for example, factories or an educated workforce) (Auty 2003 :9).

An alternative (perhaps less practical) view is that any reduction in natural capital that cannot be regenerated means sustainable development cannot be achieved. This article is about petroleum revenue which means that it is taken as given that natural resources will be exploited, and therefore the concept of sustainable development used in this section is aligned with the former (i.e. natural capital is substitutable) rather than the latter (i.e. any reduction in natural capital is not sustainable development).

Dovers (2005) points out that the term ‘sustainability’ has many and varied definitions, but as it is a ‘higher order social goal’ (like democracy, equity, public health or justice) it does not require a definition to make progress towards its achievement: Higher order social goals such as democracy or justice are still being argued about and pursued, centuries after they emerged, even though in modern societies they have far more substantial institutional and policy underpinnings than the goal of sustainability has.(Dovers 2005 :9)

Thus, if action can proceed without agreement of a rigid definition, then the goal of sustainable development can be approached (as opposed to remaining in a static or degrading state). This research is limited to exploring management of petroleum revenue in Timor-Leste. Thus, there are two principles or themes of sustainable development that are more relevant. First, sustainable development requires that both the needs of current and future generations are considered. The concept of needs is particularly pertinent to this research because ‘needs’ (as opposed to wants) are clearly better satisfied in the developed world than in countries, such as Timor-Leste, where food, shelter and protection from conflict are not satisfied. In this sense, as a

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state, Timor-Leste has a different balance to other countries when it comes to servicing this generation versus future generations’ needs. Thus, questions of how much of the natural resource stock to exploit, and when, require a different approach and the World Commission on Environment and Development definition (above) acknowledges this difference by referring to ‘the world’s poor’. Thus, sustainable development, in this research, is about the sustainable development of Timor-Leste, the State, and does not consider the global, or specifically environmental, dimensions of sustainable development. In this sense it is appropriate to ask the East Timorese what their needs are, and this is where the value of the research lies.

The second thing of relevance to this understanding is that information is crucial to sustainable development, and as a corollary, relationships are also crucial. Thus, the link between the themes of transparency and participation (highlighted earlier) and the goal of sustainable development is apparent. Even more important, if information is not known or available, is the need to act conservatively. That is, in terms of satisfying future generations’ needs, without confirmation of (or at least some kind of information about) the future availability of stocks of natural or other capital, it is necessary to judge whether current stocks should be depleted (without reducing the amount of stocks available for future generations).

In summary, and in terms of Timor-Leste’s sustainable development, it is necessary to exploit petroleum resources to generate revenue to establish and maintain the state of Timor-Leste but, as this chapter has shown, the management of petroleum revenue has its challenges and even if revenue does not disappear as a result of corruption or conflict, it is crucial that the way in which it is managed has regard to both current and future generations. The needs of current generations of East Timorese are not being met at this time, but at the same time the natural resources available are finite and the stocks are not enormous. Either some natural resources must be conserved, or some must be converted to financial capital so that future generations may benefit and their needs are also met. Unfortunately, determinations of the wealth of current natural capital, the value of its wealth upon exploitation and its potential wealth in the future are inexact, and by their nature unknown. Thus, an element of conservatism in planning and managing Timor-Leste’s petroleum revenue is warranted.

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This article has outlined the challenges of managing natural resource wealth. Natural resource wealth may contribute to sustainable development or to a resource cursed state depending on how well that wealth is managed. A state may be ‘cursed’ (that is, it may face the challenges of conflict, corruption and financial mismanagement and experience a decline in economic growth and other indicators) regardless of how well its natural resource wealth is managed. There are paths that lead to sustainable development and there are paths that lead to a state being cursed (by natural resource wealth or otherwise).

The literature on the resource curse has evolved from being economically focused to that which explores the issue from an institutional (sometimes called social) perspective. Avoiding the resource curse is not simply an economic challenge. Institutional quality is perhaps more crucial in determining whether a state can avoid the resource curse, both because natural resource revenue affects the quality of institutions and because the quality of institutions affects how well natural resource revenue is managed. Stocks of social and human capital, the ‘two caps’, are essential to establishing strong institutions, and building understanding and relationships between individuals, or civil society, and the State. The State is at the core of the solution to managing natural resource wealth well, and enabling sustainable development, but civil society also has a role to play.¹⁰

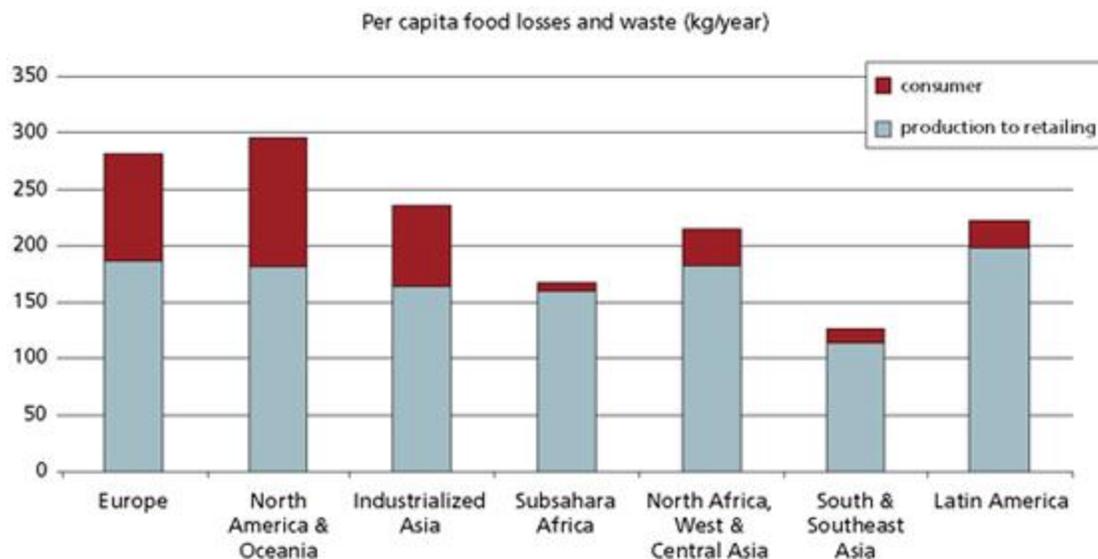
¹⁰ <https://openresearch-repository.anu.edu.au/bitstream/1885/49322/11/03chapter02.pdf>

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Key facts on food loss and waste you should know! (12.3)

- Roughly one third of the food produced in the world for human consumption every year — approximately 1.3 billion tonnes — gets lost or wasted.
- Food losses and waste amounts to roughly US\$ 680 billion in industrialized countries and US\$ 310 billion in least developed nations.
- Industrialized and least developed nations dissipate roughly the same quantities of food — respectively 670 and 630 million tonnes.
- Fruits and vegetables, plus roots and tubers have the highest wastage rates of any food.
- Global quantitative food losses and waste per year are roughly 30% for cereals, 40-50% for root crops, fruits and vegetables, 20% for oil seeds, meat and dairy plus 35% for fish.
- Every year, consumers in rich countries waste almost as much food (222 million tonnes) as the entire net food production of sub-Saharan Africa (230 million tonnes).
- The amount of food lost or wasted every year is equivalent to more than half of the world's annual cereals crop (2.3 billion tonnes in 2009/2010).
- Per capita waste by consumers is between 95-115 kg a year in Europe and North America, while consumers in sub-Saharan Africa, south and south-eastern Asia, each throw away only 6-11 kg a year.

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- Total per capita food production for human consumption is about 900 kg a year in rich countries, almost twice the 460 kg a year produced in the poorest regions.
- In least developed nations 40% of losses occur at post-harvest and processing levels while in industrialized countries more than 40% of losses happen at retail and consumer levels.
- At retail level, large quantities of food are wasted due to quality standards that over-emphasize appearance.
- Food loss and waste also amount to a major squandering of resources, including water, land, energy, labour and capital and needlessly produce greenhouse gas emissions, contributing to global warming and climate change.
- The food currently lost or wasted in Latin America could feed 300 million people.
- The food currently wasted in Europe could feed 200 million people.
- The food currently lost in Africa could feed 300 million people.
- Even if just one-fourth of the food currently lost or wasted globally could be saved, it would be enough to feed 870 million hungry people in the world.
- Food losses during harvest and in storage translate into lost income for small farmers and into higher prices for poor consumers.
- In least developed nations food waste and losses occur mainly at early stages of the food value chain and can be traced back to financial, managerial and technical constraints in harvesting techniques as well as storage and cooling facilities. Strengthening the supply chain through the direct support of farmers and

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investments in infrastructure, transportation, as well as in an expansion of the food and packaging industry could help to reduce the amount of food loss and waste. The main sectors of concern are small- and medium-scale fisheries, agricultural production and processing. Social and cultural conditions – such as the different productive and social roles that men and women play at different stages of the value chain – are also often underlying causes of food loss. In rural settings, while women are often the main actors in agriculture, post-harvest handling and marketing, social barriers may block their involvement in other stages of the chain. The difficulties that women face in obtaining access to and benefits from resources, services, jobs and income-generating activities affect their productivity and efficiency in food production, and can lead to food loss

- In medium- and high-income countries food is wasted and lost mainly at later stages in the supply chain. Differing from the situation in least developed nations, the behaviour of consumers plays a huge part in industrialized countries. The study identified a lack of coordination between actors in the supply chain as a contributing factor. Farmer-buyer agreements can be helpful to increase the level of coordination. Additionally, raising awareness among industries, retailers and consumers as well as finding beneficial use for food that is presently thrown away are useful measures to decrease the amount of losses and waste.¹¹

The impacts of food loss and waste are multifaceted

Food loss and waste have negative environmental impacts because of the water, land, energy and other natural resources used to produce food that no one consumes. The size of the impact increases with the level of processing and refining of the food products, and the stage (upstream or downstream) in the food supply chain at which the food is lost or wasted. Generally, lower losses are associated with higher efficiency in the food supply, and eventually with more effective recycling of resources, lower storage needs, shorter transport distances, and less energy use. However, solutions for reducing losses often lead to increased use of energy, especially for the preservation of food products. Obviously, from the environmental point of view, the negative impacts of measures to reduce food loss and waste should be lower than the benefits. The non-productive use of natural resources such as land and water that results from food loss and waste has repercussions on hunger and poverty alleviation, nutrition, income generation and economic growth. In the subsistence farming systems of poor smallholder producers, quantitative losses

¹¹ <http://www.fao.org/save-food/resources/keyfindings/en/>

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result directly in less food being available, and therefore contribute to food insecurity. Women farmers and young children in many least developed nations are particularly likely to suffer this impact, as they often have less access than other groups to appropriate technologies, infrastructure, storage facilities and markets. Qualitative food loss may cause reduced nutritional status, while low-quality products may also be unsafe because of their adverse effects on the health, well-being and productivity of consumers. Food loss represents a loss of economic value economic value for actors in the food production and supply chains. The value of food lost or wasted annually at the global level is estimated at US\$ 1 trillion. Today’s food supply chains are increasingly globalized, with certain food items being produced, processed and consumed in very different parts of the world. Food commodities traded on international markets and wasted in one part of the world could affect food availability and prices in other parts.¹²

Sustainable Solid Waste Management in Least Developed Nations (12.4, 12.5)

1. Introduction

As urbanization continues to take place, the management of solid waste is becoming a major public health and environmental concern in urban areas of many least developed nations. The concern is serious, particularly in the capital cities, which are often gateways to the countries for foreign diplomats, businessmen, and tourists. Poor visual appearance of these cities will have negative impacts on official and tourist visits and foreign investment.

Recognizing its importance, a number of least developed nations have requested collaboration of external support agencies, both bilateral and multilateral, in improving solid waste management in their cities in the last 20 years or so. Although some projects succeeded in providing lasting positive impacts on the management of solid waste in the recipient countries and cities, many failed to continue activities after the external support agencies ceased their support. This unsustainability of

¹² <http://www.fao.org/3/a-i4068e.pdf>

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collaborative projects is due to various technical, financial, institutional, economic, and social constraints faced by both the recipient countries/cities and external support agencies.

Such constraints vary from country to country and from city to city, as least developed nations and cities within them differ in solid waste management problems and they and external support agencies have different, and often limited, resources available to resolve the problems. Therefore, in order to ensure the sustainability of collaborative projects, the various constraints of both least developed nations and external support agencies should be carefully examined and an approach be developed to remove such constraints within the context of the collaborative projects. This paper delineates common such constraints and suggests possible ways of removing these constraints.

2. Problems and constraints in least developed nations

A typical solid waste management system in a developing country displays an array of problems, including low collection coverage and irregular collection services, crude open dumping and burning without air and water pollution control, the breeding of flies and vermin, and the handling and control of informal waste picking or scavenging activities. These public health, environmental, and management problems are caused by various factors which constrain the development of effective solid waste management systems. They can be categorized into technical, financial, institutional, economic, and social constraints. Each of these constraints is discussed, in relation to the sustainability of solid waste collaborative projects, below.

(a) Technical Constraints

In most least developed nations, there typically is a lack of human resources at both the national and local levels with technical expertise necessary for solid waste management planning and operation. Many officers in charge of solid waste management, particularly at the local level, have little or no technical background or training in engineering or management. Without adequately trained personnel, a project initiated by external consultants could not be continued. Therefore, the development of human resources in the recipient country of external support is essential for the sustainability of the collaborative project.

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Another technical constraint in least developed nations is the lack of overall plans for solid waste management at the local and national levels. As a result, a solid waste technology is often selected without due consideration to its appropriateness in the overall solid waste management system. In some cases, foreign assistance is given to a component of a solid waste management system for which the use of resources may not be most cost-effective. For instance, an external support agency provided its support to improve a general disposal site. However, the coverage of solid waste collection service is so low that solid waste generated is dumped at many undesignated sites (e.g., open areas, water channels, streets, etc.). As a result, improving the disposal site, although it may not be a bad project, would have little impact on the overall solid waste management effectiveness. In such a case, the low collection coverage is a bottleneck in the overall solid waste management system in the city, and it would be most cost-effective to provide resources to upgrade the collection service.

Research and development activities in solid waste management are often a low priority in least developed nations. The lack of research and development activities in least developed nations leads to the selection of inappropriate technology in terms of the local climatic and physical conditions, financial and human resource capabilities, and social or cultural acceptability. As a result, the technology selected can never be used, wasting the resources spent and making the project unsustainable. Several guides/manuals on appropriate solid waste management technologies in least developed nations are available in the literature, and the selection of technology could be made sometimes based on these guides/manuals. However, in most cases, these guides/manuals must be modified to the local conditions prevailing in the country, and therefore local studies are normally still needed. Such studies can be relatively easily incorporated into a collaborative project and, to the extent possible, should involve local research institutions.

(b) Financial Constraints

In general, solid waste management is given a very low priority in least developed nations, except perhaps in capital and large cities. As a result, very limited funds are provided to the solid waste management sector by the governments, and the levels of services required for protection of public health and the environment are not attained.

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The problem is acute at the local government level where the local taxation system is inadequately developed and, therefore, the financial basis for public services, including solid waste management, is weak. This weak financial basis of local governments can be supplemented by the collection of user service charges. However, users' ability to pay for the services is very limited in poorer least developed nations, and their willingness to pay for the services which are irregular and ineffective is not high either. An effective strategy for raising funds needs to be searched in any collaborative project to ensure its sustainability.

In addition to the limited funds, many local governments in least developed nations lack good financial management and planning. For instance, in a town in a developing country, over 90% of the annual budget provided for solid waste management was used up within the first six months. The lack of financial management and planning, particularly cost accounting, depletes the limited resources available for the sector even more quickly, and causes the solid waste management services to halt for some periods, thus losing the trust of service users.

(c) Institutional Constraints

Several agencies at the national level are usually involved at least partially in solid waste management. However, there are often no clear roles/functions of the various national agencies defined in relation to solid waste management and also no single agency or committee designated to coordinate their projects and activities. The lack of coordination among the relevant agencies often results in different agencies becoming the national counterpart to different external support agencies for different solid waste management collaborative projects without being aware of what other national agencies are doing. This leads to duplication of efforts, wasting of resources, and unsustainability of overall solid waste management programmes.

The lack of effective legislation for solid waste management, which is a norm in most least developed nations, is partially responsible for the roles/functions of the relevant national agencies not being clearly defined and the lack of coordination among them. Legislation related to solid waste management in least developed nations is usually fragmented, and several laws (e.g., Public Health Act, Local Government Act, Environmental Protection Act, etc.) include some clauses on rules/regulations regarding solid waste management. The rules and regulations are

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enforced by the different agencies. However, there are often duplication of responsibilities of the agencies involved and gaps/missing elements in the regulatory provisions for the development of effective solid waste management systems. It should be also noted that legislation is only effective if it is enforced. Therefore, comprehensive legislation, which avoids the duplication of responsibilities, fills in the gaps of important regulatory functions, and is enforceable, is required for sustainable development of solid waste management systems.

Because of a low priority given to the sector, the institutional capacity of local government agencies involved in solid waste management is generally weak, particularly in small cities and towns. Local ordinance/by-laws on solid waste management is not also well developed. These weak local government institutions are not provided with clear mandates and sufficient resources to fulfill the mandates. In large metropolitan areas where there are more than one local government, coordination among the local governments is critical to achieve the most cost-effective alternatives for solid waste management in the area. For instance, the siting of a solid waste transfer station or disposal facility for use by more than one local governments is cost-effective due to its economy of scale. However, as these facilities are usually considered unwanted installations and create not-in-my-backyard (NIMBY) syndromes among the residents, no local government is willing to locate them within its boundary. The lack of a coordinating body among the local governments often leads to disintegrated and unsustainable programmes for solid waste management.

(d) Economic Constraints

Economic and industrial development play key roles in solid waste management. Obviously, an enhanced economy enables more funds to be allocated for solid waste management, providing a more sustainable financial basis. However, by definition, least developed nations have weak economic bases and, hence, insufficient funds for sustainable development of solid waste management systems.

Local industry which produces relatively inexpensive solid waste equipment and vehicles will reduce, or in some cases could eliminate totally, the need for importing expensive foreign equipment/vehicles and therefore foreign exchange. Such local industry can also supply associated spare parts, lack of which is often responsible

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for irregular and insufficient solid waste collection and disposal services. However, the lack of industry manufacturing solid waste equipment and spare parts and a limited foreign exchange for importing such equipment/spare parts are the rule rather than exception in least developed nations.

Also in small least developed nations, waste recycling activities are affected by the availability of industry to receive and process recycled materials. For instance, the recycling of waste paper is possible only when there is a paper mill within a distance for which the transportation of waste paper is economical. The weak industry base for recycling activities is a common constraint for the improvement of solid waste management in least developed nations, such as those in the Pacific region where a large volume of package waste is generated.

(e) Social Constraints

The social status of solid waste management workers is generally low in both developed and least developed nations, but more so in least developed nations than developed countries. This owes much to a negative perception of people regarding the work which involves the handling of waste or unwanted material. Such people's perception leads to the disrespect for the work and in turn produces low working ethics of laborers and poor quality of their work.

Because of insufficient resources available in the government sector, collaborative projects often have attempted to mobilize community resources and develop community self-help activities. Results are a mixture of success and failures. Failed projects with inactive communities usually did not provide people in the community with economic as well as social incentives to participate in activities. The social incentive is based on the responsibility of individuals as part of the community for the improvement of the community, and is created by public awareness and school education programmes. The lack of public awareness and school education about the importance of proper solid waste management for health and well-being of people severely restricts the use of community-based approaches in least developed nations.

At dump sites, transfer stations, and street refuse bins, waste picking or scavenging activities are common scenes in least developed nations. People involved have not received school education and vocational training to obtain knowledge and skills required for other jobs. They are also affected by limited employment opportunity

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available in the formal sector. The existence of waste pickers/scavengers creates often an obstacle to the operation of solid waste collection and disposal services. However, if organized properly, their activities can be effectively incorporated into a waste recycling system. Such an opportunistic approach is required for sustainable development of solid waste management programmes in least developed nations.¹³

Conclusion

The full implementation of SDG 12 will require defining the major contributors of overconsumption and consumerism, and also unequal consumption in the modern society must be well addressed.

Dealing with only the symptoms, such as the politically and economically less challenging problems (the proverbial low hanging fruits) is not going to produce any significant changes needed to ensure sustainability. Thus, the indicators and implementation plans of this SDG ought to be developed from this viewpoint.

Moreover, SDG 12 as presented in the Sustainable Development Goals should be used in line with the ten-year framework so as to ensure synergies and complementarity. Together, both programs require a wide-ranging set of key indicators, which would consolidate social, economic and environmental elements into a shared framework for easy monitoring of progress.

In effect, a periodic intensive report would show the impact of consumption and production patterns to the health of people and how possibilities of attaining well-being by the future generations are being safeguarded or threatened by current consumption and production activities.

Due to the interconnected nature of the planet, local collaborative actions are going to provide universal outcomes. SDG 12 seeks to open a new world to humankind, where not just a few people undertake sustainable consumption, but where reducing, reusing, preventing and recycling will be common for everyone. The effects of such a sustainable lifestyle go beyond preserving the earth’s natural resources, as it can help in reducing the increasingly widening gap between the rich and the poor.¹⁴

¹³ <https://www.gdrc.org/uem/waste/swm-fogawa1.htm>

¹⁴ <http://www.mdgmonitor.org/sdg12-ensure-sustainable-consumption-and-production/>

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